

# Mineral Industry Surveys

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#### **SULFUR IN FEBRUARY 2006**

During the month, production of recovered elemental sulfur was 618,000 metric tons, according to the U.S. Geological Survey. February 2006 production was 8% lower than that of January 2006 and 12% lower than that of February 2005. Shipments were 6% lower than those of January 2006. Producers' ending stocks for February 2006 were 157,000 tons.

Sulfur production in February is typically lower than in January because the month is shorter, but additional factors contributed to low production. Sulfur production at petroleum refineries had not recovered to the level experienced before two major hurricanes struck the Gulf Coast in August and September. Acid gas reinjection at a large natural gas operation in Wyoming reduced sulfur production from that source by about 25%. Production from refineries is expected to increase,

but recovery from natural gas operations is not predicted to increase significantly.

Import and export data for February 2006 were not available at the time of publication and will be published in the Sulfur in March 2006 Mineral Industry Surveys along with apparent consumption. Imports of recovered sulfur for January 2006 were estimated to be 280,000 tons; exports were 55,000 tons. Imports of sulfuric acid for January 2006 were 244,000 tons; exports were 13,000 tons.

Significant adjustments have been made to the sulfur import data. Reports from the U.S. Census Bureau appear to underreport sulfur imports, especially material from Canada. The revised figures are based on Census information and data from personal communications with industry experts.

 $\label{eq:table 1} \textbf{TABLE 1} \\ \textbf{SALIENT SULFUR STATISTICS}^1$ 

#### (Thousand metric tons)

	P	roduction	Shipments,	Ending	
Period	Petroleum <sup>2</sup>	Natural gas	Total	all sources	stocks <sup>3</sup>
2005:					
January-December	6,900	1,810	8,710	8,690	XX
January-February	1,120	322	1,440	1,430	XX
February	546	156	702	694	187
March	584	169	753	754	183
April	597	157	754	755	168
May	620	159	780	768	177
June	618	158	775	772	178
July	619	153	772	772	175
August	647	163	810	811 <sup>r</sup>	175
September	486	141	627	631	165
October	475	136	611	611	158
November	551	129	679	668	172
December	584	120	705	712	160
2006:	-				
January <sup>r</sup>	561	112	673	662	167
February <sup>p</sup>	505	113	618	623	157
Total	1,070	225	1,290	1,290	XX

<sup>&</sup>lt;sup>p</sup>Preliminary. <sup>r</sup>Revised. XX Not applicable.

 $\label{eq:table 2} \text{U.S. IMPORTS OF SULFUR}^1$ 

## (Thousand metric tons and thousand dollars)

	Canad	la	Mexic	co	Venezuela		Total, all countries <sup>2</sup>	
Period	Quantity <sup>e</sup>	Value <sup>3</sup>	Quantity	Value <sup>3</sup>	Quantity <sup>e</sup>	Value <sup>3</sup>	Quantity <sup>e</sup>	Value <sup>3</sup>
2004:								
January-December	2,010	31,300	545	28,200	339	16,100	2,850	76,800
2005:								
January	145	2,070	31	1,070	43	1,520	239	4,730
February	130	2,130	50	1,930	50	1,910	230	6,080
March	145	2,320	40	1,640			185	4,050
April	165	2,530	20 r	1,840	38	1,440	249	5,830
May	170	1,890	40	1,570	40	1,600	251	5,140
June	165	2,460	40	1,780	30	1,340	235	5,670
July	170	2,650	40	1,490	38	1,440	218	5,610
August	170	2,820	20	808	31	1,280	221	5,040
September	160	3,020	39	1,600	41	1,670	241	6,360
October	185	3,570	44	1,900	37	1,620	227	7,770
November	180	3,680	29	1,130	20	819	233	5,710
December	185	4,360	34	1,890	41	2,180	261	8,500
Total	1,970	33,500	427	18,600	409	16,800	2,790	70,500
2006:	<del></del>							
January	185	4,190	58	2,520	37	1,680	280	8,460

<sup>&</sup>lt;sup>e</sup>Estimated. <sup>r</sup>Revised. -- Zero.

Sources: U.S. Census Bureau data as adjusted by U.S. Geological Survey and PentaSul North America Sulphur Service.

 $<sup>^{1}\</sup>mathrm{Data}$  are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>Includes a small quantity from coking operations.

<sup>&</sup>lt;sup>3</sup>Subject to inventory adjustments.

 $<sup>^{1}\</sup>mbox{Data}$  are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>May include other countries not listed.

<sup>&</sup>lt;sup>3</sup>Declared customs valuation.

TABLE 3  $\mbox{U.S. IMPORTS OF SULFURIC ACID}^1$ 

(Thousand metric tons and thousand dollars)

		Canada			Mexico		Tota	al, all countries	$s^2$
		Sulfur			Sulfur			Sulfur	
Period	Quantity	content	Value <sup>3</sup>	Quantity	content	Value <sup>3</sup>	Quantity	content	Value <sup>3</sup>
2004:									
January-December	1,920	628	72,500	217	71	4,160	2,390	780	86,300
2005:									
January	173	57	5,990	46	15	861	248	81	9,490
February	174	57	6,190	39	13	745	213	70	7,820
March	183	60	7,080	39	13	696	254	83	8,590
April		63	7,770	25	8	497	250	82	9,660
May	158	52	6,370	34	11	606	192	63	7,080
June	144	47	5,360	26	8	445	189	62	6,380
July	168	55	6,840	9	3	187	213	70	7,790
August	156	51	6,490	19	6	350	196	64	9,150
September	169	55	6,890	35	11	626	241	79	8,260
October	178	58	7,880	60	20	1,730	253	83	11,600
November	138	45	5,910	38	12	674	181	59	6,820
December	172	56	7,910	28	9	504	229	75	9,640
Total	2,000	656	80,700	398	129	7,920	2,660	871	102,000
2006:	<del>_</del>								
January	<del></del>	63	7,800	16	5	416	244	80	9,030

<sup>--</sup> Zero.

Source: U.S. Census Bureau.

 $\label{eq:table 4} \textbf{U.s.} \ \textbf{EXPORTS} \ \textbf{OF} \ \textbf{SULFUR} \ \textbf{AND} \ \textbf{SULFURIC} \ \textbf{ACID}^1$ 

(Thousand metric tons and thousand dollars)

				Sulfuric acid	
	Sulf	ur			
Period	Quantity	Value <sup>2</sup>	Quantity	content	Value <sup>2</sup>
2004:					
January-December	949	63,300	204	67	21,300
2005:					
January		1,740	13	4	1,590
February	<del></del> 72	5,040	28	9	2,230
March	41	6,270	31	10	2,270
April	94	6,010	51	17	3,280
May		1,850	26	8	2,560
June		5,920	38	12	3,630
July	64	4,520	24	8	1,920
August	<del></del> 71	5,330	25	8	2,600
September	42	3,470	26	8	2,810
October	104	7,070	32	10	3,020
November	<del></del>	2,940	7	2	992
December	<del></del> 87	5,790	37	12	2,560
Total	683	55,900	338	108	29,500
2006:	<del>_</del>				
January		4,440	13	4	671

<sup>&</sup>lt;sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

<sup>&</sup>lt;sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>May include other countries not listed.

<sup>&</sup>lt;sup>3</sup>Declared customs valuation.

<sup>&</sup>lt;sup>2</sup>Declared f.a.s. (free alongside ship) valuation.

 $\label{eq:table 5} \text{U.S. CONSUMPTION OF SULFUR}^1$ 

## (Thousand metric tons)

	Domestic		
Period	sources <sup>2</sup>	Imports <sup>e</sup>	Consumption
2004:			
January-December	8,470	2,850	11,300
2005:			
January	720	239	959
February	622	230	852
March	713	185	898
April	661	249	910
May	752	251	1,000
June	716	235	951
July	708	218	926
August	— 740 <sup>r</sup>	221	961 <sup>r</sup>
September	589	241	830
October	507	227	719
November	654	233	887
December	625	261	886
Total	8,010	2,790	10,800
2006:			
January	607	280	887

<sup>&</sup>lt;sup>e</sup>Estimated. <sup>r</sup>Revised.

TABLE 6 RECOVERED SULFUR PRODUCED AND SHIPPED IN THE UNITED STATES, BY PAD (PETROLEUM ADMINISTRATION FOR DEFENSE) DISTRICT  $^1$ 

## (Thousand metric tons)

	February	y 2006 <sup>p</sup>	January	January 2006		January - February 2006 <sup>2</sup>		January - February 2005 <sup>2</sup>	
District and source	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments	
PAD 1:									
Petroleum and coke	20	20	17 <sup>r</sup>	17 <sup>r</sup>	37	37	44	43	
Natural gas	1	1	1	1	3	3	4	4	
Total	22	21	18 <sup>r</sup>	19 <sup>r</sup>	40	39	47	47 <sup>r</sup>	
PAD 2:									
Petroleum and coke	74	74	74 <sup>r</sup>	74	148	149	163	164	
Natural gas	3	3	3	4	6	6	7	7	
Total	77	77	77 <sup>r</sup>	78 <sup>r</sup>	154	155	170 <sup>r</sup>	171 <sup>r</sup>	
PAD 3:3									
Petroleum and coke	311	323	356	345	667	668	687 <sup>r</sup>	679 <sup>r</sup>	
Natural gas	36	35	33	35	69	70	84 <sup>r</sup>	88 <sup>r</sup>	
Total	347	358	390	380	736	738	772 <sup>r</sup>	768 <sup>r</sup>	
PAD 4 and 5: <sup>4</sup>									
Petroleum and coke	99	96	113 <sup>r</sup>	108	213	203	225 <sup>r</sup>	218 <sup>r</sup>	
Natural gas	73	72	74 <sup>r</sup>	78	147	150	227 <sup>r</sup>	228 <sup>r</sup>	
California	82	78	91	86	173	164	171 <sup>r</sup>	162 <sup>r</sup>	
Total	172	168	187 <sup>r</sup>	185 <sup>r</sup>	360	353	452 <sup>r</sup>	446 <sup>r</sup>	
Grand total	618	623	673 <sup>r</sup>	662 <sup>r</sup>	1,290	1,290	1,440	1,430	

 $<sup>^</sup>p Preliminary. \ ^r Revised. \\$ 

 $<sup>^{1}\</sup>mathrm{Data}$  are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>Calculated as shipments minus exports.

<sup>&</sup>lt;sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>May include revisions.

<sup>&</sup>lt;sup>3</sup>Includes the U.S. Virgin Islands.

<sup>&</sup>lt;sup>4</sup>Quantities produced and shipped in California included in petroleum and natural gas. California total shown for information purposes only.

# ${\bf TABLE~7}$ ${\bf COMPARATIVE~SULFUR~AND~SULFURIC~ACID~STATISTICS}^1$

# (Million metric tons per year [annualized basis] and dollars per metric ton for period shown)

		2006				
	February	January	Total	total		
Production	8.06 p	7.92 <sup>r</sup>	7.99 <sup>r</sup>	8.71		
Shipments	8.12 <sup>p</sup>	7.79 <sup>r</sup>	7.95 <sup>r</sup>	8.69		
Exports of sulfur	NA	0.65	0.65	0.58		
Imports of sulfur:						
Canada	NA	2.18 <sup>e</sup>	2.18 <sup>e</sup>	1.97 <sup>e</sup>		
Mexico	NA	0.68	0.68	0.45		
Venezuela	NA	0.44 <sup>e</sup>	0.44 <sup>e</sup>	0.41 <sup>e</sup>		
Total <sup>2</sup>	NA	3.30 e	3.30 e	2.79 <sup>e</sup>		
Export of H <sub>2</sub> SO <sub>4</sub>	NA	0.15	0.15	0.31		
Import of H <sub>2</sub> SO <sub>4</sub> :	<del></del>					
Canada	NA	2.28	2.28	1.87		
Mexico	NA	0.19	0.19	0.40		
Total <sup>2</sup>	NA	2.87	2.87	2.66		
Consumption: <sup>3</sup>						
Domestic sources	NA	7.15	7.15	8.01 <sup>r</sup>		
Imports	NA	3.30 <sup>e</sup>	3.30 <sup>e</sup>	2.79 <sup>e</sup>		
Total	NA	10.44	10.44	10.80 <sup>r</sup>		
Sulfur export values <sup>4</sup>	NA	\$81	\$81	\$84		
Sulfur import values: <sup>4</sup>						
Canada	NA	\$23	\$23	\$17		
Mexico	NA	\$43	\$43	\$41		
Venezuela	NA	\$45	\$45	\$41		
Average	NA	\$30	\$30	\$25		
H <sub>2</sub> SO <sub>4</sub> export values <sup>4</sup>	NA	\$52	\$52	\$86		
H <sub>2</sub> SO <sub>4</sub> import values: <sup>4</sup>	_					
Canada	NA	\$40	\$40	\$40		
Mexico	NA	\$26	\$26	\$20		
Average	NA	\$37	\$37	\$38		

<sup>&</sup>lt;sup>e</sup>Estimated. <sup>p</sup>Preliminary. <sup>r</sup>Revised. NA Not available.

<sup>&</sup>lt;sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>Includes other countries not listed.

<sup>&</sup>lt;sup>3</sup>Because February trade data were not available, February consumption was not determined.

<sup>&</sup>lt;sup>4</sup>Average value per ton for most recent data available.